



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,838	09/15/2005	Mitsuaki Kobayashi	58769US004	3727
32692	7590	05/28/2008	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				DESAI, ANISH P
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
05/28/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com  
LegalDocketing@mmm.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/549,838	KOBAYASHI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ANISH DESAI	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 06 February 2008.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,4-8,10-15,18,20,21 and 23-29 is/are pending in the application.

4a) Of the above claim(s) 7,10-12,20 and 21 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,4-6,8,13-15,18 and 23-29 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

    1. Certified copies of the priority documents have been received.

    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## DETAILED ACTION

1. Applicant's arguments in response to the Office action dated 12/07/07 have been fully considered. Claims 1, 4-8, 10-15, 18, 20, 21, and 23-29 are pending. Claims 2, 3, 9, 16, 17, 19, and 22 are cancelled. Claims 7, 10-12, 20, and 21 are withdrawn. Support for amended claims is found in the specification.
2. All of the previously made art rejections are maintained.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 5, 6, 23, 25, and 26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Flam (US 3,661,142).
2. Flam teaches a temperature sensitive patch comprising a flexible backing having a pressure-sensitive adhesive (PSA) coated on one side (an adhesive tape) and a plurality of color responsive indicators (temperature-indicating material) adhered on the

other side thereof (abstract). Each of the indicators displays a color change spectrum according to temperature changes within a different predetermined temperature range (column 2 lines 11-18). Further, the PSA of Flam includes rubber base and acrylate adhesives (column 2 lines 74-75). Moreover, Flam discloses polyethylene terephthalate as flexible backing material at column 2 line 45, which reads on aliphatic polyester as presently claimed.

3. Given that Flam teaches what has been set forth above, and specially with regards to claims 1 and 23, it is the Examiner's position that the properties of a film substrate having an elastic modulus at a temperature below an activation temperature, an elastic modulus at a temperature exceeding the activation temperature, an elongation at break at a temperature exceeding the activation temperature, and color-changing temperature is equal to or greater than the activation temperature as claimed would be present in the invention of Flam. Support for said presumption is based on the fact that the adhesive tapes of both inventions i.e. that of Applicant and Flam comprise a film substrate and an adhesive layer disposed on at least one surface of the film surface. Additionally, a temperature-indicating material is disposed on the film substrates of Flam and Applicant. Moreover, the film substrates of Flam and that of Applicant comprise aliphatic polyester such as PET. Thus, the adhesive tapes including the film substrates of Flam and Applicant are structurally and compositionally equivalent. Therefore, the presently claimed properties would have been present. The burden is upon Applicant to prove it otherwise (see *In re Fitzgerald*, 205 USPQ 594). In

addition, the presently claimed properties would obviously have been present once the product of Flam is provided (see *In re Best*, 195 USPQ at 433, footnote 4 CCPA 1977).

4. Claims 1 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yutaka et al. (Machine translation of Abstract and Detailed Description of JP 2001-247828 previously provided).

5. Yutaka discloses a reversible temperature sensitive color changing PSA tape (abstract). The PSA tape of Yutaka comprises a reversible temperature sensitive color changing tape substrate 11 wherein a specific reversible thermochromic pigment is fixedly dispersed in the tape substrate and a PSA layer is laminated on one side of the tape substrate (abstract). Moreover, as a material for tape substrate, Yutaka discloses polyethylene terephthalate (0005), which reads on the film substrate comprising aliphatic polyester as claimed.

6. Given that Yutaka teaches what has been set forth above, and specially with regards to claims 1 and 23, it is the Examiner's position that the properties of a film substrate having an elastic modulus at a temperature below an activation temperature, an elastic modulus at a temperature exceeding the activation temperature, an elongation at break at a temperature exceeding the activation temperature, and color-changing temperature is equal to or greater than the activation temperature as claimed would be present in the invention of Yutaka. Support for said presumption is based on the fact that the adhesive tapes of both inventions i.e. that of Applicant and Yutaka comprise a film substrate and an adhesive layer disposed on at least one surface of the

film surface. Additionally, a temperature-indicating material is disposed within the film substrates of Yutaka and Applicant. Moreover, the film substrates of Yutaka and that of Applicant comprise aliphatic polyester. Thus, the adhesive tapes including the film substrates of Yutaka and Applicant are structurally and compositionally equivalent. Therefore, the presently claimed properties would have been present. The burden is upon Applicant to prove it otherwise (see *In re Fitzgerald*, 205 USPQ 594). In addition, the presently claimed properties would obviously have been present once the product of Yutaka is provided (see *In re Best*, 195 USPQ at 433, footnote 4 CCPA 1977).

7. Claims 1, 5, 6, 8, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flam (US 3,661,142) in view of Kuckertz et al. (WO 02/36702A). US 2004/0067331A1 to Kuckertz et al. is relied upon as an equivalent for convenience.

8. The invention of Flam is previously disclosed and it is equally applicable to claims 1, 5, 6, 8, 13, and 15.

9. The difference between the claimed invention and the prior art of Flam is that Flam is silent with respect to teaching the film substrate comprising an aliphatic polyester. However, Kuckertz discloses biodegradable tear-off strips for biodegradable packaging materials, comprising a backing film comprising biodegradable aliphatic polyester and/or copolyester (abstract and 0016) and an adhesive layer applied to the backing film (0018). At paragraph 0008-0009, Kuckertz discloses that use of biodegradable materials is desirable because ordinary packaging materials generate waste. Further, the biodegradable backing films of Kuckertz meets the high mechanical

requirements that are placed upon a tear-off strips (0015). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the backing film comprising aliphatic polyester as taught by Kuckertz in the invention of Flam, motivated by the desire to provide biodegradability to the PSA tape of Flam so that when the user of such a tape discards the tape it would be biodegradable and will generate less waste.

10. With respect to claimed properties of a film substrate having an elastic modulus at a temperature below an activation temperature, an elastic modulus at a temperature exceeding the activation temperature, an elongation at break at a temperature exceeding the activation temperature, and color-changing temperature is equal to or greater than the activation temperature, these properties would be present in the adhesive tape of Flam as modified by Kuckertz. The support for the Examiner's position is based on the fact that the adhesive tapes of Flam as modified by Kuckertz and that of Applicant comprise a film substrate wherein the film substrate comprises an aliphatic polyester and a first adhesive layer is disposed on the film substrate. Thus the presently claimed properties would have been present. The burden is upon Applicant to prove it otherwise (see *In re Fitzgerald*, 205 USPQ 594).

11. Claims 4 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flam (US 3,661,142) as applied to claims 1 and 23, and further in view of Matveev et al. (Abstract of SU 717201A).

12. The Invention of Flam is previously disclosed. Flam is silent with respect to teaching wherein the temperature indicating material comprises a higher fatty acid ester. However, Matveev discloses a paper strip consisting of paper base with coating formed of a thermo-sensitive substance, a binder, a pigment and a solvent. Further, as a thermosensitive substance esters of stearic acid (higher fatty acid ester) are used (see abstract). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a temperature-indicating material such as higher fatty acid ester in the invention of Flam, motivated by the desire to form the temperature sensitive patch of Flam.

13. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flam (US 3,661,142) in view of Kuckertz et al. (WO 02/36702A) as applied to claims 1, 8, and 13, and further in view of Matveev et al. (Abstract of SU 717201A).

14. The invention of Flam as modified by Kuckertz is previously disclosed. Flam as modified by Kuckertz is silent with respect to teaching wherein the temperature indicating material comprises a higher fatty acid ester. However, the invention of Matveev is previously disclosed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a temperature-

indicating material such as higher fatty acid ester in the invention of Flam, motivated by the desire to form the temperature sensitive patch of Flam.

15. Claims 18, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flam (US 3,661,142) in view of Kuckertz et al. (WO 02/36702A) as applied to claim 8, and further in view of Kreckel et al. (US 5,516,581).

16. With respect to newly added independent claim 27, it is noted that this claim is a combination of claims 8 and 18. Thus, the invention of Flam as modified by Kuckertz as set forth previously in this Office Action is equally applicable to claim limitations of "An adhesive tape comprising...a temperature-indicating material disposed...a color-changing temperature".

17. The difference between the claimed invention and prior art of Flam as modified by Kuckertz is that, Flam is silent with respect to teaching the adhesive tape further comprising a foam layer. However, Kreckel discloses a removable adhesive tape comprising a backing layer and a layer of PSA (abstract). Additionally, the tape backing of Kreckel comprises a second layer of foam (see claim 19). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a foam layer in the adhesive tape, motivated by the desired to enhance the strength of the backing and the adhesive tape and such a backing would not rupture prior to the removal of a tape from a substrate.

18. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flam (US 3,661,142) in view of Kuckertz et al. (WO 02/36702A) and Kreckel et al. (US 5,516,581) as applied to claim 27, and further in view of Matveev et al. (Abstract of SU 717201A).

19. The invention of Flam is previously disclosed. Flam is silent as to teaching “wherein the temperature-indicating material comprises...cobalt...iron...or a combination thereof.” as claimed. However, the invention of Matveev is previously disclosed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a temperature-indicating material such as higher fatty acid ester in the invention of Flam, motivated by the desire to form the temperature sensitive patch of Flam.

### ***Response to Arguments***

20. Applicant's arguments filed on 02/06/08 have been fully considered but they are not persuasive.

21. Applicant argues that Flam does not disclose or suggest “an adhesive tape having a film substrate comprising an aliphatic polyester...with an elastic modulus above and below an activation temperature, and an elongation at break as described in the present invention.” (see page 11 of Applicant's arguments). According to Applicant “the present invention focuses on an adhesive tape for supporting an object to be hung vertically on a wall without stretching...However Flam does not teach or suggest adhesive tape that are capable of stably fixing heavy objects to a bonded substrate for

an extended period of time at room temperature without being distorted due to the weight of the heavy object (page 3, lines 1-12 of present application). Flam does not teach or suggest adhesive tape as described in the present invention that can be removed from a heavy object and substrate without residual adhesive above an activation temperature. Flam does not describe...substrate having stretch properties in combination with an adhesive layer...period of time without distortion (page 3, lines 9-12 of present application)." (pages 11-12 of Applicant's arguments). The Examiner respectfully disagrees for following reasons:

22. It is noted that the backing film of Flam's invention can be made of polyethylene terephthalate (PET) (column 2 line 45) which reads on Applicant's aliphatic polyester. Additionally, as to the arguments regarding elastic modulus and elongation at break of a film substrate, based on the facts as set forth previously on pages 3-4 of 12/07/07 Office Action beginning at "Given that Flam teaches...see *In re Best..CCPA 1977*) and in Section 3 of this Office Action, it is the Examiner's position that elastic modulus and elongation at break of a film substrate as claimed would be present. It is respectfully submitted that Applicant has provided no factual evidence on the record that would indicate that the aforementioned properties of elastic modulus and elongation at break would not be present in the invention of Flam. Therefore, Applicant's arguments are not found persuasive.

23. With regards to Applicant's arguments that "the present invention focuses on an adhesive tape for supporting an object to be hung vertically on a wall without stretching...However Flam does not teach or suggest adhesive tape that are capable of

stably fixing heavy objects to a bonded substrate for an extended period of time at room temperature without being distorted due to the weight of the heavy object (page 3, lines 1-12 of present application). Flam does not teach or suggest adhesive tape as described in the present invention that can be removed from a heavy object and substrate without residual adhesive above an activation temperature. Flam does not describe...substrate having stretch properties in combination with an adhesive layer...period of time without distortion (page 3, lines 9-12 of present application).", these arguments are not commensurate in scope with the claimed invention. Claims do not require that the adhesive tape should be capable to hang an object vertically on a wall without stretching or that the tape should be capable of stably fixing heavy objects to a bonded subject for an extended period of time at room temperature. Further, the Examiner respectfully submits that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Accordingly, Applicant's arguments are not found persuasive.

24. Applicant argues that "Yutaka does not disclose or suggest an adhesive tape having a film substrate comprising an aliphatic polyester...the film substrate has one or more layers with an elastic modulus above and below an activation temperature, and an elongation at break as described in the present invention." (page 13 of Applicant's arguments). Further, Applicant asserts that "Rather, the present invention focuses on adhesive tape for supporting an object to be hung vertically on a wall without

stretching...However, Yutaka does not teach or suggest adhesive tapes that are capable of stably fixing heavy objects to a bonded substrate for an extended period of time at room temperature without being distorted due to the weight of the heavy objects (page 3 lines 1-12 of present application). Yutaka does not teach...adhesive tapes as described in the present specification that can be removed from a heavy object...activation temperature. Yutaka does not describe nor cite a film substrate having stretch properties in combination with an adhesive layer for mounting...(page 3, lines 9-12 of present application)." (page 13 of Applicant's arguments). The Examiner respectfully disagrees for following reasons:

25. It is noted that the backing film of Yutaka's invention can be made of polyethylene terephthalate (PET) (see 0005) which reads on Applicant's aliphatic polyester. Additionally, as to the arguments regarding elastic modulus and elongation at break of a film substrate, based on the facts as set forth previously on page 4-5 of 12/07/07 Office Action beginning at "Given that Yutaka teaches...see *In re Best..CCPA 1977*) and in Section 4 of this Office Action, it is the Examiner's position that elastic modulus and elongation at break of a film substrate as claimed would be present. It is respectfully submitted that Applicant has provided no factual evidence on the record that would indicate that the aforementioned properties of elastic modulus and elongation at break would not be present in the invention of Yutaka. Therefore, Applicant's arguments are not found persuasive.

26. As to the arguments "Rather, the present invention focuses on adhesive tape for supporting an object to be hung vertically on a wall without stretching...However,

Yutaka does not teach or suggest adhesive tapes that are capable of stably fixing heavy objects to a bonded substrate for an extended period of time at room temperature without being distorted due to the weight of the heavy objects (page 3 lines 1-12 of present application). Yutaka does not teach...adhesive tapes as described in the present specification that can be removed from a heavy object...activation temperature. Yutaka does not describe nor cite a film substrate having stretch properties in combination with an adhesive layer for mounting...(page 3, lines 9-12 of present application).”, these arguments are not found persuasive because they are not commensurate in scope with the claimed invention. It is respectfully submitted that claims do not require that the adhesive tape should be capable to hang an object vertically on a wall without stretching or that the adhesive tape should be capable of stably fixing heavy objects to a bonded subject for an extended period of time at room temperature. Further, the Examiner respectfully submits that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir.1993). Accordingly, Applicant’s arguments are not found persuasive.

27. Applicant argues “Kuckertz doesn’t teach or suggest a film substrate comprising an aliphatic polyester...film substrate has one or more layers with an elastic modulus above or below an activation temperature...elongation at break as described in the present invention.” (see page 14 of Applicant’s arguments). The Examiner respectfully disagrees for following reasons:

28. As to the arguments that Kuckertz does not teach or suggest a film substrate comprising an aliphatic polyester, these arguments are not found persuasive because the limitation aliphatic polyester is shown in abstract and 0001 of Kuckertz. Additionally, it is noted that Applicant's reply admits that Kuckertz discloses "monoaxially oriented biodegradable aliphatic polyester and/or copolyester" (see page 14 of Applicant's arguments). As to the claim requirement of elastic modulus and elongation at break, based on the facts as set forth previously on page 6 of 12/07/07 Office Action, these properties of elastic modulus and elongation at break would be present in the invention of Flam as modified by Kuckertz. Accordingly, Applicant's arguments are not found persuasive.

29. With regards to claim 4, Applicant argues that Matveev does not teach or suggest a film substrate comprising "an aliphatic polyester...elongation at break as describe in the present invention." (page 14 of Applicant's arguments). The Examiner respectfully submits that he is not relying on Matveev to teach the aforementioned claim limitations; instead Matveev is relied upon to teach the claim limitation of higher fatty acid as required by claim 4. Accordingly, Applicant's arguments are not found persuasive.

30. Regarding claim 14, Applicant argues that "Flam in view of Kuckertz, and further in view of Mateev does not teach or suggest an adhesive tape...of the present invention." (page 15 of Applicant's arguments). These arguments are not found

persuasive for the reasons given above, and further in view of the fact that this rejection is made to render claim limitation of higher fatty acid ester obvious.

31. Regarding the rejection of claim 18, Applicant argues that “Kreckel doesn’t teach or suggest a film substrate comprising aliphatic polyester...elongation at break as described in the present invention.” (page 15 of Applicant’s arguments). The Examiner respectfully submits that this rejection is made to disclose the claim limitation of a foam layer and therefore Applicant’s arguments are not found persuasive.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Vo can be reached on 571-272-1485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./  
Examiner, Art Unit 1794

/Hai Vo/  
Hai Vo  
Primary Examiner, Art Unit 1794